

SEQUENCE LISTING

<110> Tang, Lan
Wu, Wenping
Duan, Junxin
Johannesen, Pia Francke

<120> Thermostable alpha-amylases

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<170> PatentIn version 3.3

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Ala Ala Thr Ser Leu Ala Ser Pro Leu Pro Gln Gln Gln Arg Tyr Gly
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aaa aga gca act tcg gat gac tgg aaa agc aag gcc att tat cag ctg 145
Lys Arg Ala Thr Ser Asp Asp Trp Lys Ser Lys Ala Ile Tyr Gln Leu
15 20 25

ctt aca gat cga ttt ggc cgc gcc gat gac tca aca agc aac tgc tct 193
Leu Thr Asp Arg Phe Gly Arg Ala Asp Asp Ser Thr Ser Asn Cys Ser
30 35 40

aat tta tcc aac tac tgt ggt ggt acc tac gaa ggc att acg aag cat 241
Asn Leu Ser Asn Tyr Cys Gly Gly Thr Tyr Glu Gly Ile Thr Lys His
45 50 55

ctt gac tac att tcc ggt atg ggc ttt gat gct atc tgg ata tcg cca 289
Leu Asp Tyr Ile Ser Gly Met Gly Phe Asp Ala Ile Trp Ile Ser Pro
60 65 70

att ccc aag aac tcg gat gga ggc tac cac ggc tac tgg gct aca gat 337
Ile Pro Lys Asn Ser Asp Gly Gly Tyr His Gly Tyr Trp Ala Thr Asp
75 80 85 90

ttc tac caa cta aac agc aac ttt ggt gat gaa tcc cag ctc aaa gcg 385
Phe Tyr Gln Leu Asn Ser Asn Phe Gly Asp Glu Ser Gln Leu Lys Ala
95 100 105

ctc atc cag gct gcc cat gaa cgt gac atg tat gtt atg ctt gat gtc 433
Leu Ile Gln Ala Ala His Glu Arg Asp Met Tyr Val Met Leu Asp Val
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gta gcc aat cat gca ggt ccc acc agc aat ggc tac tcg ggt tac aca 481
Val Ala Asn His Ala Gly Pro Thr Ser Asn Gly Tyr Ser Gly Tyr Thr
125 130 135

ttc ggc gat gca agt tta tat cat cct aaa tgc acc ata gat tac aat 529
Phe Gly Asp Ala Ser Leu Tyr His Pro Lys Cys Thr Ile Asp Tyr Asn
140 145 150

gat cag acg tct att gag caa tgc tgg gtt gct gac gag ttg cct gat 577
Asp Gln Thr Ser Ile Glu Gln Cys Trp Val Ala Asp Glu Leu Pro Asp
155 160 165 170

att gac act gaa aat tct gac aac gtg gcc att ctc aac gac atc gtc 625
Ile Asp Thr Glu Asn Ser Asp Asn Val Ala Ile Leu Asn Asp Ile Val
175 180 185

tcc ggc tgg gtg ggt aac tat agc ttt gac ggc atc cgc att gat act 673
Ser Gly Trp Val Gly Asn Tyr Ser Phe Asp Gly Ile Arg Ile Asp Thr
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Thr Thr Val Ser Ser Asp Gly Thr Val Thr Phe Asn Leu Lys Asp Gly
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Thr Asp Arg Phe Gly Arg Ala Asp Asp Ser Thr Ser Asn Cys Ser Asn
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Leu Ser Asn Tyr Cys Gly Gly Thr Tyr Glu Gly Ile Thr Lys His Leu
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Asp Tyr Ile Ser Gly Met Gly Phe Asp Ala Ile Trp Ile Ser Pro Ile
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Pro Lys Asn Ser Asp Gly Gly Tyr His Gly Tyr Trp Ala Thr Asp Phe
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Tyr Gln Leu Asn Ser Asn Phe Gly Asp Glu Ser Gln Leu Lys Ala Leu
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Ile Gln Ala Ala His Glu Arg Asp Met Tyr Val Met Leu Asp Val Val
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Ala Asn His Ala Gly Pro Thr Ser Asn Gly Tyr Ser Gly Tyr Thr Phe
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Gly Asp Ala Ser Leu Tyr His Pro Lys Cys Thr Ile Asp Tyr Asn Asp
 140 145 150 155

Gln Thr Ser Ile Glu Gln Cys Trp Val Ala Asp Glu Leu Pro Asp Ile
160 165 170

Asp Thr Glu Asn Ser Asp Asn Val Ala Ile Leu Asn Asp Ile Val Ser
175 180 185

Gly Trp Val Gly Asn Tyr Ser Phe Asp Gly Ile Arg Ile Asp Thr Val
190 195 200

Lys His Ile Arg Lys Asp Phe Trp Thr Gly Tyr Ala Glu Ala Ala Gly
205 210 215

Val Phe Ala Thr Gly Glu Val Phe Asn Gly Asp Pro Ala Tyr Val Gly
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Pro Tyr Gln Lys Tyr Leu Pro Ser Leu Ile Asn Tyr Pro Met Tyr Tyr
240 245 250

Ala Leu Asn Asp Val Phe Val Ser Lys Ser Lys Gly Phe Ser Arg Ile
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Ser Glu Met Leu Gly Ser Asn Arg Asn Ala Phe Glu Asp Thr Ser Val
270 275 280

Leu Thr Thr Phe Val Asp Asn His Asp Asn Pro Arg Phe Leu Asn Ser
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Gln Ser Asp Lys Ala Leu Phe Lys Asn Ala Leu Thr Tyr Val Leu Leu
300 305 310 315

Gly Glu Gly Ile Pro Ile Val Tyr Tyr Gly Ser Glu Gln Gly Phe Ser
320 325 330

Gly Gly Ala Asp Pro Ala Asn Arg Glu Val Leu Trp Thr Thr Asn Tyr
335 340 345

Asp Thr Ser Ser Asp Leu Tyr Gln Phe Ile Lys Thr Val Asn Ser Val
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Arg Met Lys Ser Asn Lys Ala Val Tyr Met Asp Ile Tyr Val Gly Asp
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Tyr Gly Ser Gly Ser Thr Asn Gln Val Ser Phe Ser Val Ser Gly Lys
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Phe Asp Ser Gly Ala Ser Leu Met Asp Ile Val Ser Asn Ile Thr Thr
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